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CENTRAL INTELLIGENCE AGENCY

INFORMATION REPORT

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SECURITY INFORMATION

COUNTRY	East Germany	REPORT	50X1-HUM
SUBJECT	Werk fuer Fernmeldewesen HF (OSW) Development of Electron Beam Tubes for the USSR	DATE DISTR.	13 November 1953 50X1-HUM
		NO. OF PAGES	2
DATE OF INFO.		REQUIREMENT	
PLACE ACQUIRED		REFERENCES	50X1-HUM

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50X1-HUM

A. Development of an electron beam tube for pulse code modulation

1. In 1951, when the present VEB Werk fuer Fernmeldewesen, Berlin-Oberschoeneweide, Ostendstrasse 1-5, was a Russian SAG Kabel concern, the Russians placed an order there for the development of an electron beam tube for pulse code modulation.

2. The task was assigned to Ing. Fiedler of the HF plant; he worked at it until he left for the Heinrich Hertz Institute of the East German Academy of Sciences in autumn 1952. , the development of the tube was part of a task given to the NEF (the section of the HF plant devoted to research and development of signal equipment) to develop a communications system using pulse code modulation. the specifications set for the tube were 50X1-HUM

Pulse width: about 1.5 µsec
Pulse edge steepness: about 0.5 µsec
} which gives a beam diameter of about 0.1 mm 50X1-HUM

There were no specifications for Ua_2 and Ia_2, and the pulse amplitude was unknown. It was remarked that a tube had values of Ua_2 = 1000 V and Ia_2 = 10 µA. The

3. Construction of these tubes was started in 1952, but the results were unsatisfactory. The first passable results were obtained in spring 1953, when three laboratory models were made in OSW.

4. In July 1953, no development work was in progress, but Walter Wenderoth of OSW had taken over the three tube models and was going to test them. It was also known that the apparatus associated with these tubes was being developed in another section of OSW.

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B. Production of metal ceramic valves

5. Although the USSR earlier this year stopped acceptance of all metal ceramic tubes from the VEB Werk fuer Fernmeldewesen, new orders for the same items were later placed with the same firm. In July 1953, the Russians placed an order for 4,000 metal ceramic tubes type LD-7. This caused some difficulties in the German factory, because the metal ceramic tube department had by then been dissolved, as a result of the lack of Russian orders, and the workers assigned to other departments.

6. Russian acceptance officials

Two Russian acceptance officials were sent to OSW for the LD-7 and LD-9 tubes, which the Russians had also ordered. They were Engineer Erechenko (fnu) and Engineer Novotvurskiy (fnu) (both names phonetic). Engineer Erechenko was in the Svetlana tube factory, Leningrad, in 1950; he was at that time working at Svetlana, on a temporary transfer from his normal work at the tube factory in Novosibirsk.

50X1-HUM

7. Production figures

[redacted] the Metal Ceramic Tube Production Department of OSW, production (exclusively for the USSR) totaled 1,000 LD-7 and 1,000 LD-9 per month during July and August 1953. [redacted] production of these two tubes was then to cease, and LD-11 and LD-12 tubes were to be manufactured. Planned future 1953 production was as follows:

50X1-HUM

	September	October	November	December
LD-11	1,000	1,800	2,000	2,000
LD-12	1,000	1,800	2,000	2,000

Production, [redacted] was running well at the end of August, and the reject rate had been considerably lowered.[2]

50X1-HUM

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[redacted]

2. [redacted] Comment: It would appear from paragraph 7, above, that a total of 4,000 tubes of types LD-7 and LD-9 were finally made; it is not clear whether the second sentence of paragraph 5 is incorrect, or if the Russian order was at some stage modified.